



Why native plants

The plants growing in a place decide which birds and butterflies that place can have. Not influence. Decide. Here is how that works, and what one Berkeley butterfly can show a child about it in an afternoon.

6,000

to 9,000 caterpillars, to raise one brood of chickadees.

That is 350 to 550 caterpillars a day, every day, for the sixteen to eighteen days between hatching and fledging. One pair of small birds. One nest. One spring.

Doug Tallamy, University of Delaware.



ONE

Birds run on caterpillars.

96% of the terrestrial birds of North America rear their young on insects. Not seeds, not berries, whatever the adults themselves eat. Caterpillars are the largest part of it, with spiders second: soft, boneless, and close to a perfect food for a chick.

TWO

Caterpillars are fussy.

Fussy in a way that is hard to overstate. Most plant-eating insects can only eat the few plant lineages they evolved alongside. Tallamy puts it as high as 90%, and careful counts put it nearer 75%. Either way, most cannot switch to whatever we plant.

THREE

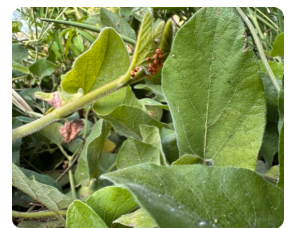
So the plants decide.

A garden of plants from somewhere else can be green, healthy, tidy and almost entirely empty. No caterpillars, no chicks. Native plants are not a matter of taste. They are the food supply, and everything above them is counting on it.

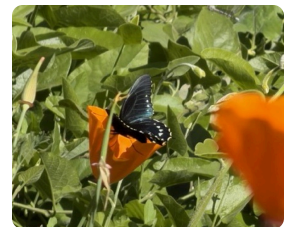
This butterfly. This vine. Nothing else.

The California pipevine swallowtail is the whole argument standing in front of you. Its caterpillars can eat nothing but *Aristolochia*, and in California that means exactly one plant: *Aristolochia californica*, the California pipevine.

No pipevine, no butterfly. Not fewer butterflies. None. That is not a statistic that needs a source, it is arithmetic you can watch happen along a creek. Which is why the useful thing to do for this species is not to feel strongly about it. It is to put a vine in the ground.



California pipevine, the only host plant.



The butterfly it makes possible.



The life cycle, and how to look after one

Four words, in this order: **egg**, **caterpillar**, **chrysalis**, **butterfly**. Butterflies make a chrysalis; a cocoon is a moth's. In a room of three-year-olds the words on this sheet are the words they keep.



The eggs go on the soft new growth, in clusters.

1 EGG

Small, bright orange, laid in clusters on the tender new leaves. Before she lays, the female tastes the plant with her feet: butterflies carry chemical receptors on their feet, and she drums her forelegs on a leaf to be certain she has the right vine.



Young ones feed in a huddle. Older ones feed alone.

2 CATERPILLAR

It grows through five instars, climbing out of its own skin between each one: orange-red at first, near black with orange spikes at the end. It eats California pipevine and nothing else, and the vine's toxins pass into it and stay for life. The loud colors are a warning, and the warning is true.



Beside Strawberry Creek, with the scaffolding behind it.

3 CHRYSALIS

It spins a pad of silk, then a girdle across its middle, and ties itself to a stem or a fence before it changes. Green or brown, never bright: smooth surfaces tend to give green, rough ones brown, short days brown regardless. In warm months the butterfly comes out in about two weeks.



Iridescent blue hindwings, most vivid in males.

4 BUTTERFLY

Black, with hindwings that flash blue as they turn. In California the species spends the winter as a chrysalis, so the adults are on the wing in March, before the bare pipevine has put out a single leaf. The butterflies arrive first, and wait for their plant.

Five things worth saying out loud

- **She tastes with her feet.** That is how a butterfly checks she has found the right plant before she trusts it with her eggs.
- **It is poisonous because its dinner is.** The caterpillar takes the pipevine's acids and keeps them, and so does the butterfly it becomes.
- **A chrysalis wears a seatbelt.** A loop of silk around its middle, spun before it changes, holding it to the stem.
- **The butterflies come out before their plant does,** in March, and wait on bare vines for the leaves.
- **Some wait years.** An overwintering chrysalis need not hatch the following spring. Some wait three or four years before the butterfly appears.

Caring for your caterpillars

- **Food:** California pipevine, and nothing else. There is no substitute leaf, so take caterpillars on only if you have a vine or we have supplied one.
- **Moisture:** mist lightly with a spray bottle now and then so they do not dry out.
- **Once one pupates:** leave it fastened where it chose if you can. Keep it cool, out of direct sun, and mist occasionally through the winter.
- **Late winter:** move it somewhere brighter and warmer to encourage it out.
- **Emergence:** give the butterfly something to climb, let it dry its wings for a few hours, then release it. The dark red fluid it leaves behind is normal.

A quiet chrysalis is not a dead chrysalis.

Caterpillars that pupate late in the season usually will not hatch until the following year, and some rest longer than that. Please do not throw one away.

What you can do

Take a free pipevine.

We give away one-gallon California pipevine, grown on from vines rescued off the UC Berkeley campus. Free, with a donation suggested and never required.

whrfund.org/rescued-pipevine

Tell us where one should go.

A creek bank, a shady fence line, the corner of a schoolyard. We plant in the wet season, November through February, with volunteers.

whrfund.org/plant-a-pipevine

Report what you see.

A photograph of a caterpillar, a chrysalis, an adult or a vine tells us where this population actually is. Adults are too fast to count; the caterpillars are the census.

whrfund.org/report-a-sighting

Bring the program to your classroom. We run the Caterpillar Education Program free for schools and community groups across the East Bay, host plants included.

whrfund.org/caterpillar-education · hello@whrfund.org

Life cycle checked July 2026 against Friends of the Regional Parks Botanic Garden, "California Pipevine Swallowtail"; the National Park Service species account; and Butterflies and Moths of North America, *Battus philenor*. Photographs are our own, taken along Strawberry Creek at UC Berkeley. The same account, kept current, is at whrfund.org/pipeline-swallowtail.